

AMENDMENTS TO THE CLAIMS

Please amend the claims of the present application as set forth below.

In accordance with the PTO's revised amendment format, a detailed listing of all claims has been provided. A status identifier is provided for each claim in a
5 parenthetical expression following each claim number. Changes to the claims are shown by strikethrough (for deleted matter) or underlining (for added matter).

Claim History Summary:

- 10 Claim 1 was originally filed.
 Claim 1 was rejected (OA 04/07/04).
 Claim 1 was amended and claims 2-10 were added.
 Claims 1-10 were rejected (Final OA 11/01/04).

15 Claim Summary of Present Response:

 Claims 1-10 are currently amended.
 Claims 11-14 are new.
 Claims 1-14 are pending.

Detailed Listing of All Claims 1-14:

Claim 1 (Currently amended). A heat exchanger comprising:

a core member including:

- 5 a plurality of hot-side fluid or gas transport passages for
accommodating passage of a first fluid or gas therein;
a plurality of cold-side fluid or gas transport passages for
accommodating passage of a second fluid or gas therein that is provided at a
temperature less than that of the first fluid or gas, the hot-side and cold-side
fluid or gas transport passages being in contact with one another to permit
10 conductive heat transfer;

- a hot-side manifold and a cold-side manifolds connected to ends of the
hot-side and cold-side fluid or gas passages to direct and receive the first and
second fluids or gases into and from the respective hot-side and cold-side fluid
or gas transport passages wherein the hot-side manifold comprises a dividing
15 wall to divide the hot-side manifold into two unequal fluid or gas portions,
wherein the smaller of the unequal fluid or gas portions receives the first fluid or
gas from the plurality of hot-side fluid or gas transport passages and wherein
the larger of the unequal fluid or gas portions directs the first fluid into the
plurality of hot-side fluid or gas transport passages; and

- 20 a flow director integral to the hot-side one of the manifolds to change the
flow direction of the first ~~or second~~ fluid or gas passing therethrough the larger
of the unequal fluid or gas portions ~~wherein the flow director allows for flow of~~
~~the fluid or gas along a centerline of an opening of the manifold and comprises~~
~~at least two members disposed at non-orthogonal angles to the centerline.~~

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- Claim 2 (Currently amended). The heat exchanger of claim 1 wherein the
hot-side manifold comprising the flow director comprises a length and a width
and wherein the flow director comprises at least two members ~~disposed at non-~~
~~orthogonal angles to the centerline~~ direct the fluid or gas substantially
30 lengthwise in the larger of the unequal fluid or gas portions of the hot-side
manifold.

Claim 3 (Currently amended). The heat exchanger of claim 4-2 wherein the at least two members comprise bars that act to reduce localized stress concentrations of the hot-side manifold proximate to an inlet~~the opening~~.

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Claim 4 (Currently amended). The heat exchanger of claim 1 wherein the flow director is integral to the hot-side manifold via welding.

Claim 5 (Currently amended). The heat exchanger of claim 1 wherein the
10 hot-side manifold comprises an inlet ~~two or more openings wherein each opening to receives one of the first and second fluids or gases into the heat exchanger and an outlet that or allows one of the first and second fluids or gases to exit the heat exchanger.~~

15 Claim 6 (Currently amended). The heat exchanger of claim 1 wherein the cold-side manifold ~~comprising the flow director~~ comprises a dividing wall to divide the cold-side manifold into two fluid or gas portions.

Claim 7 (Currently amended). The heat exchanger of claim 6-1 wherein the
20 flow director comprises one or more members of ~~the flow diverter that~~ extend from the dividing ~~plate wall~~ to an opposing wall of the hot-side manifold.

Claim 8 (Currently amended). A manifold for a heat exchanger comprising:
a dividing wall to divide the manifold into an inlet ~~first~~ fluid or gas portion
25 and a smaller, outlet ~~second~~ fluid or gas portion;
an inlet ~~first opening~~ associated with the inlet ~~first~~ fluid or gas portion
having a centerline and a cross-sectional flow area substantially orthogonal to the centerline;
a second ~~n outlet~~ opening associated with the smaller, second outlet fluid
30 or gas portion; and

a flow director integral to the manifold that ~~allows for flow of fluid or gas along a centerline of one of the openings and comprises~~ at least two members disposed at non-orthogonal angles to the centerline of the inlet.

- 5 Claim 9 (Currently amended). The manifold of claim 8 wherein the at least two members comprise bars that act to reduce localized stress concentrations of the manifold proximate to the inlet opening.

- 10 Claim 10 (Currently amended). The manifold of claim 8 wherein one or more members of the flow director ~~member~~ extend from the dividing wall to an opposing wall of the manifold.

- 15 Claim 11 (New). The manifold of claim 8 wherein the inlet comprises an inlet for gas and the outlet comprises an outlet for the gas.

- 15 Claim 12 (New). The manifold of claim 11 wherein the gas enters the inlet at a high temperature and wherein the gas exits the outlet at a lower temperature.

- 20 Claim 13 (New). The manifold of claim 11 wherein the gas enters the inlet at a low density and wherein the gas exits the outlet at a higher density.

Claim 14 (New). The manifold of claim 8 wherein the outlet comprises a cross-sectional flow area and wherein the cross-sectional flow area of the inlet exceeds the cross-sectional flow area of the outlet.